Parking Lot Electric Vehicle References

Parking Lot Power Requirements

•Con Edison Electrical Requirements:

i. Approximately 1250 KVA of service
ii. Approximately 1,200 amps for the 4 DC fast chargers (480 volts each) and approximately 600 amps for 20 Level 2 chargers (208/220 volts).

Parking Lot Power Feeder Diagram

Line Diagram for Electric Vehicle Charging Station - Power Fed from Con Ed (Assuming 120/208V, 3 Phase service)

- (4) Units of DC Fast Charger Station, 150KW, 480V, 3 Phase

- (20) Units of Level 2 EV Charger Station, 7.2Kw, 240/208V, Single Phase

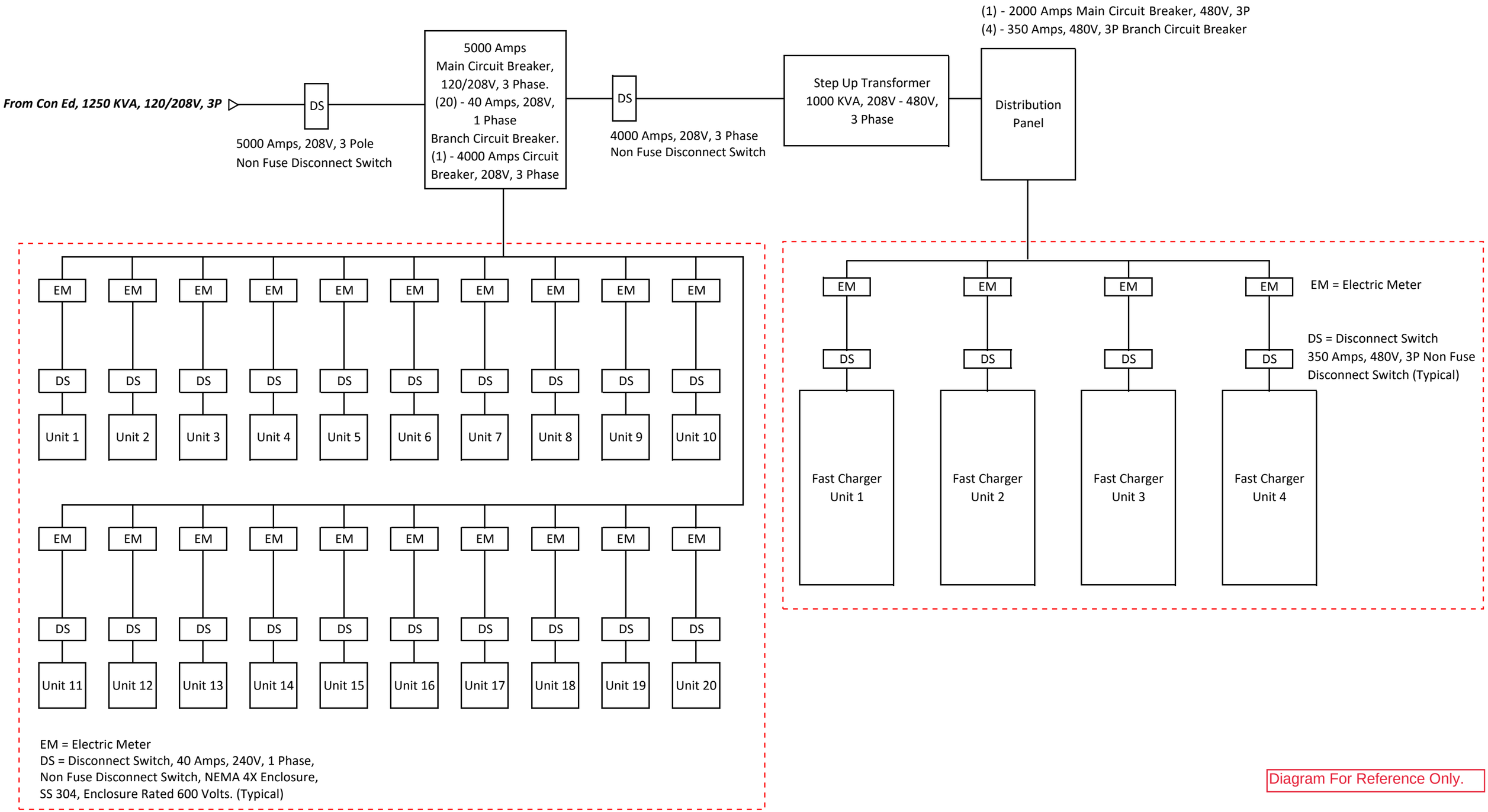
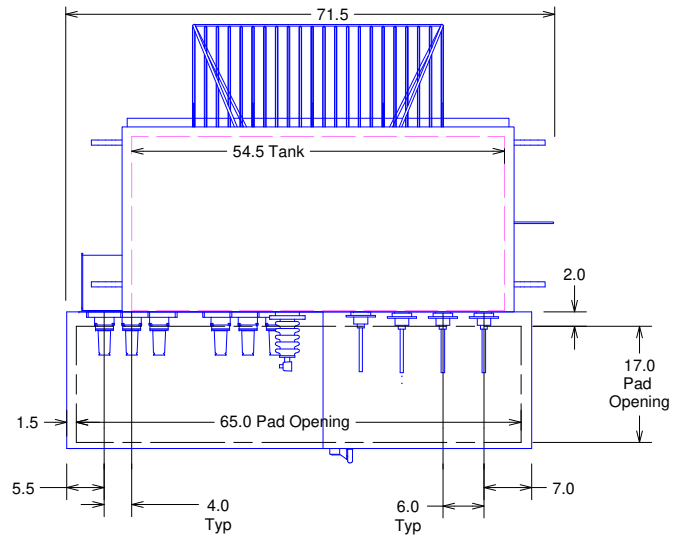


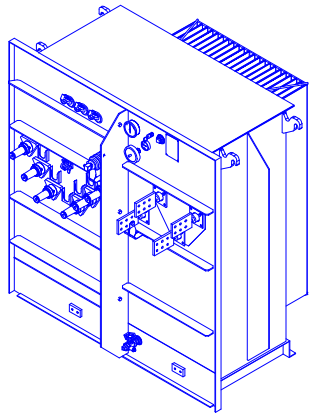
Diagram For Reference Only.

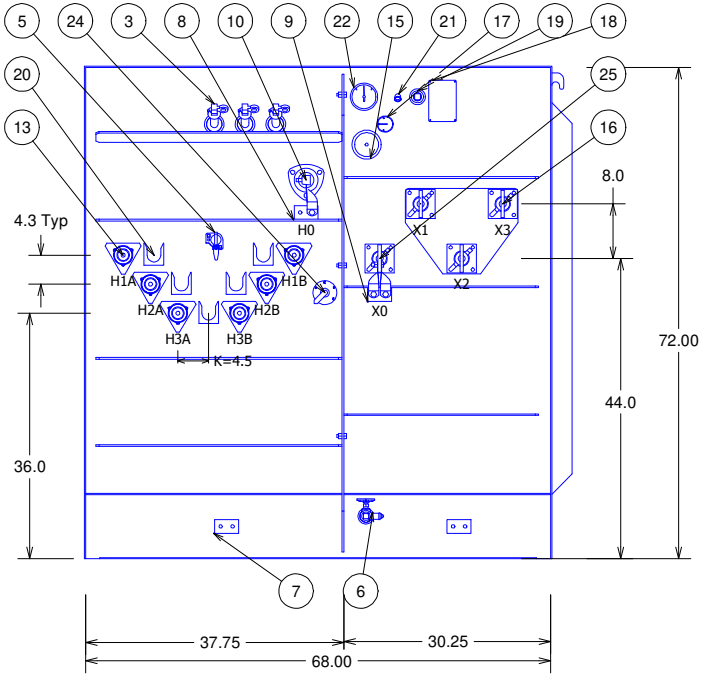
Transformer
(For Reference Only)

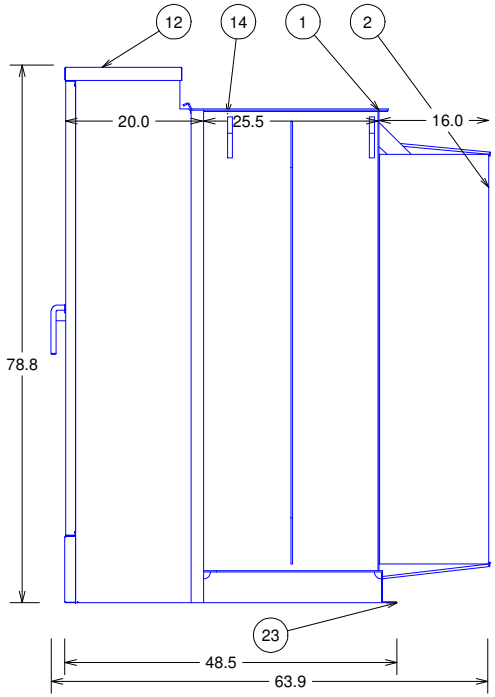
ITEM	DESCRIPTION
1	Bolted Cover w/ Nutguard
2	Cooling Corrugate
3	Cooper Bayonet Fusing w/ Dripshield
4	Current Limiting Backup Fuses (Internal)
5	Delta Wye Switch
6	Drain Valve with Sampler
7	Ground Pad .50-13 Tap
8	Ground Strap and Pad
9	Ground Strap and Pad
10	H0 Bushing
11	6.0kV (5.1kV MCOV) Elbow Arrester (boxed)
12	High Security Cabinet w/ 1 Pentahead Door Bolt per door
13	35kV 200 Amp HV Bushing Well w/ 15kV Insert
14	Lifting Lug
15	Liquid Temperature Gauge
16	1.2kV LV Bushing w/ 6 Hole Spade
17	Magnetic Oil Level Gauge
18	Nameplate
19	One Inch Upper Press. Conn. and Fill Plug
20	Parking Stand
21	Pressure Relief Valve
22	Pressure Vacuum Gauge
23	Tank Base w/ Jacking and Rolling Facilities
24	5-Position Tap Changer
25	X0 Bushing



Cabinet Removed







3PH Padmount Transformer 60Hz
1000.0 kVA ONAN 65 AWR Mineral Oil
HV 4800/8320Y/4800 75 kV BIL
LV 480Y/277 30 kV BIL
5.74 %IZ
Approximate Weight 7659 lbs.
Munsell Green Topcoat
Mild Steel Construction

DESIGN #: 1

Drawing For Reference Only

MATERIAL:

ALL DIMENSIONS ARE IN INCHES [MM]

THE INFORMATION ON THIS DOCUMENT WAS CREATED BY EATON. IT WAS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT WAS SUPPLIED.

THIS DRAWING HAS BEEN GENERATED FROM A 3D MODEL.

EATON
Powering Business Worldwide

TITLE: Distribution Transformer Outline Drawing

DESC: **COOPER POWER SERIES** THREE-PHASE PAD-MOUNTED COMPARTMENTAL TYPE

DWG:	DATE:	REF:	SHEET #:	SCALE:	REV:
PTP	9/23/2021	P3D V04R01M07	1 OF 1		00

D10NVRYW

D10NVRYW
REVISIONS

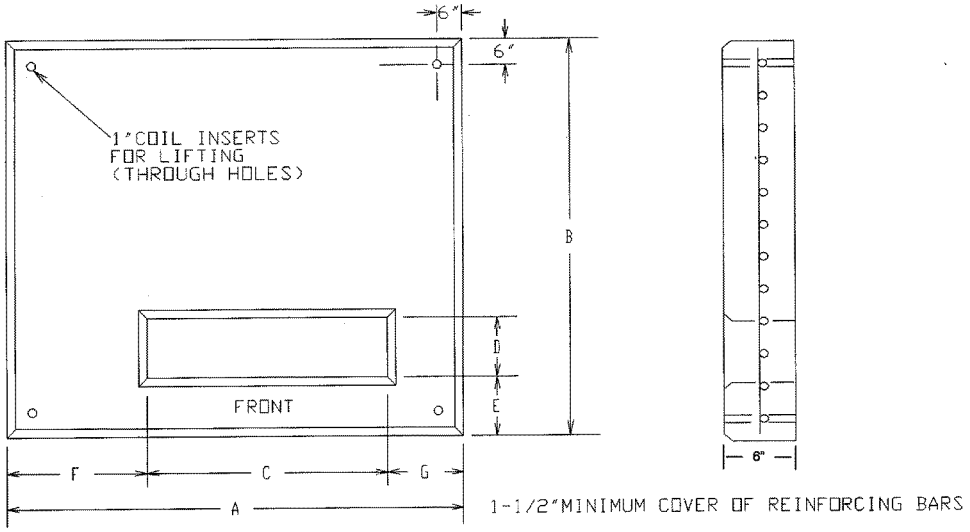
Typical Transformer Pad Details (For Reference Only)

Flat Pads-Sizing for Three Phase Transformers

NYSEG
DISTRIBUTION STANDARDS
(Underground)

SECTION 7 - MANHOLES, VAULTS & PADS

FLATPAD SELECTION GUIDE FOR PADMOUNTED UTILIZATION AND STEP TRANSFORMERS



DIMENSIONS OF POURED OR PRECAST CONCRETE PADS												
	TRANSFORMER RATING			DIMENSIONS IN INCHES								
TYPE	KV	PHASE	KVA	A	B	C	D	E	F	G	WEIGHT	SS#
Util.	15/35	1	25-167*	50	50	24	12	7	13	13	750	262-803-00
Util.	15	3	75-750**	78	72	48	18	10	17	13	2700	262-777-00
Util.	15	3	750-2500	89	75	50	17	14	21	18	3100	262-781-00
Util.	35	3	75-1500	89	75	50	17	14	21	18	3100	262-781-00
Util.	35	3	2500	96	96	60	24	12	24	12	4300	262-782-00
Step		1/3	250-500	76	71	30	15	22.5	23	23	2600	262-790-00
Step		3	500-1500	95	89	43	17	20	26	26	4100	262-791-00
Step		3	1500-2500	96	96	62	17	20	17	17	4300	262-792-00
Step		3	3750-5000	120	120	80	24	20	20	20	6500	262-793-00

* Used for conversion of a submersible transformer installation to a padmounted installation. This unit is 4" thick, not 6".

** 750KVA will fit on both this pad and SS# 262-781-00. Use the larger pad where transformer size may be increased in the future

Notes

1. Reinforce with grade 60 #4 bars on 6" centers both ways
2. 4000 PSI concrete at 28 days
3. Top and Bottom to be smooth finish

FLAT PADS

ISSUE NO. 5 DATE: JUNE 2003 DR. KLH CKD. RSE APPR. RSE

3.1

This is a NYSEG distribution standard. References to page and section numbers within this standard are to other NYSEG standards not to page and section numbers within this book.

EO-13775-B

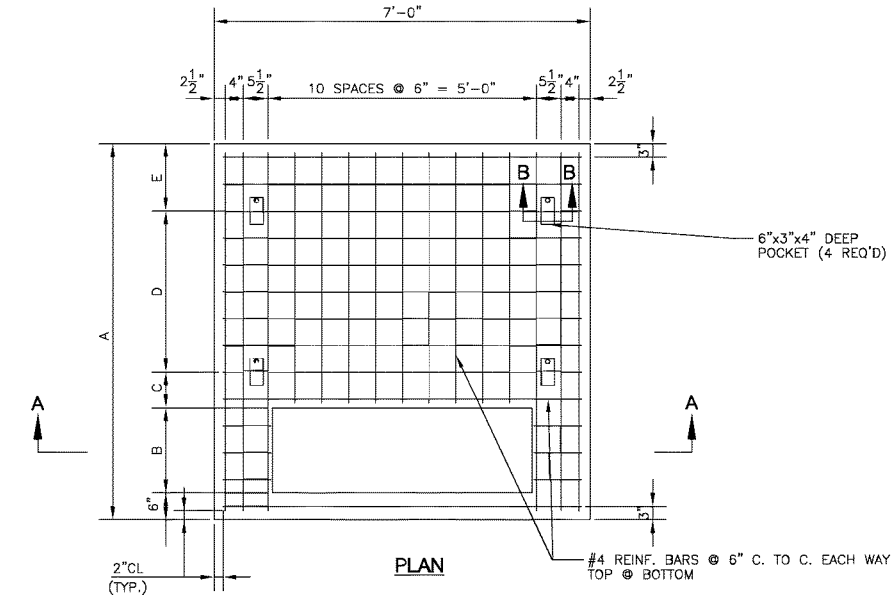
REVISIONS

LUIS ORTEGA 11/4/96	5
REDRAWN TO AUTOCAD. UPDATED MATERIAL AND CONSTRUCTION SPECS., REF. SPECS., TABLE, PLAN, SECT. A–A, SECT. B–B, AND CH'D TITLE AND SIZE OF DWG. H.J.M. 10–30–96	
LUIS ORTEGA 1/24/97	6
CHANGED SUPERSEDE NOTE FROM EO–13775–C TO EO–13757–C. H.J.M. 1–24–97	
S. PARASHER 4/6/05	7
ADDED URD MANUAL NO. 24 IN FILING INFO. J.T. ABBRUSCATO 4/6/05	

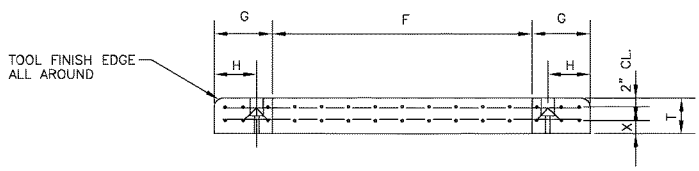
FIELD MANUAL NO.24: SECTION 8: TRANSFORMERS

FIELD MANUAL NO.22: SECTION 8: TRANSFORMERS

CONSTRUCTION STDS. MANUAL NO.3: SECTION 37: SUBWAY



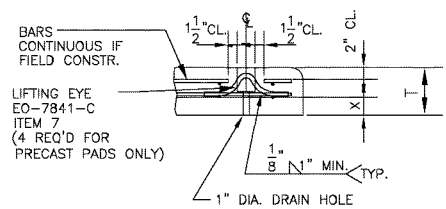
PLAN



SECTION A-A

TABLE

THREE PHASE TRANSFORMER SIZE (KVA)	PRIMARY VOLTAGE	CONCRETE PAD TYPE OF INSTALLATION	DIMENSIONS (INCHES) A	B	C	J	E	F	G	H	T	X	APPROX. CONC. VOL. (CU. YDS.)	APPROX. PRECAST PAD WEIGHT (LBS.) REINF.	PAD
75–500	4KV & 13KV	FIELD POURED	72	19	——	——	——	44	20	——	8 1/2	3	0.95	——	——
		PRECAST	72	19	9	30	9	44	20	12	7 1/2	2	0.84	212	3395
	27KV	FIELD POURED	72	22	——	——	——	44	20	——	8 1/2	3	0.93	——	——
		PRECAST	72	22	8	27	8	44	20	12	7 1/2	2	0.82	207	3308
1000–2000	4KV & 13KV	FIELD POURED	84	19	——	——	——	58	13	——	8 1/2	3	1.05	——	——
		PRECAST	84	19	8	36	15	58	13	10	7 1/2	2	0.96	233	3876
	27KV	FIELD POURED	84	22	——	——	——	58	13	——	8 1/2	3	1.05	——	——
		PRECAST	84	22	8	33	15	58	13	10	7 1/2	2	0.93	226	3767



SECTION B-B

MATERIAL SPECIFICATIONS:

CONCRETE SHALL CONFORM TO CON EDISON SPEC. EO–1008, CLASS II.
CEMENT MORTAR SHALL CONFORM TO CON EDISON SPEC. EO–100,167 (STK # 000–0208).
ALL REINFORCING BARS SHALL BE BILLET STEEL, DEFORMED, AND SHALL CONFORM TO ASTM SPEC. DES. A–615, GRADE 60.
ALL REINFORCING BARS SHALL BE EPOXY COATED AND SHALL CONFORM TO ASTM SPEC. DES. A–775.
STRUCTURAL STEEL SHALL CONFORM TO ASTM SPEC. DES. A–36.
WELD STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH EO–11320.

CONSTRUCTION SPECIFICATIONS:

REINFORCING BARS SHALL BE WIRE TIED AT ALL CONTACT POINTS WITH PLASTIC COATED WIRE TIES.
ALL REINFORCING BARS SUPPORTED FROM FRAMEWORK SHALL REST ON COATED WIRE BAR SUPPORTS.
EPOXY COATING, DAMAGED AS A RESULT OF HANDLING OR CUTTING OF REINFORCING BARS, SHALL BE REPAIRED WITH PATCHING MATERIAL COMFORMING TO ASTM SPEC. DES A–775.
A 2" MINIMUM OF CONCRETE SHALL BE MAINTAINED OVER ALL REINFORCING BARS AND SHAPES, UNLESS OTHERWISE NOTED.
WHERE MAIN HORIZONTAL BARS ARE CUT FOR REPLACEMENT PURPOSES, SPLICE BARS OF THE SAME SIZE AND AT LEAST 2'–6" LONG SHALL BE INSTALLED ACROSS THE CUT POSITION.
PAD SHALL BE INSTALLED ON A MINIMUM OF 6" CRUSHED STONE.
TOP SURFACE OF PAD SHALL HAVE A STEEL TROWEL FINISH.
TOP OF PAD SHALL BE 6" ABOVE GRADE.
OMIT LIFTING EYES, POCKETS AND DRAIN HOLES FROM FIELD CONSTRUCTED PADS.
FILL LIFTING HOLES AND OPEN AREAS AROUND CONDUITS WITH MORTAR AFTER PAD IS INSTALLED.

Drawing For Reference Only

REF. SPECS:

INSTALLATION OF PAD AND CONDUIT _____ EO–12482–B
THREE PHASE, METAL ENCLOSED, PAD MOUNTED XFORMERS _____ EO–5015
REQUIREMENTS FOR THE INSTALLATION OF SINGLE AND THREE PHASE PAD MOUNTED TRANSFORMERS _____ EO–6229

THIS DWG. SUPERSEDES DWG. EO–12180–C, EO–12541–C, EO–13757–C.

CONCRETE PAD FOR 3 PHASE PAD MOUNTED TRANSFORMERS

CONSOLIDATED EDISON COMPANY OF N.Y., INC.
DISTRIBUTION ENGINEERING DEPT.

DATE 1/29/70
LAST REV. 4/6/05
DWG. NO. EO-13775-B
REV. 7

ISSUE 4	SPECIFICATIONS FOR ELECTRIC INSTALLATIONS	FIG. 4

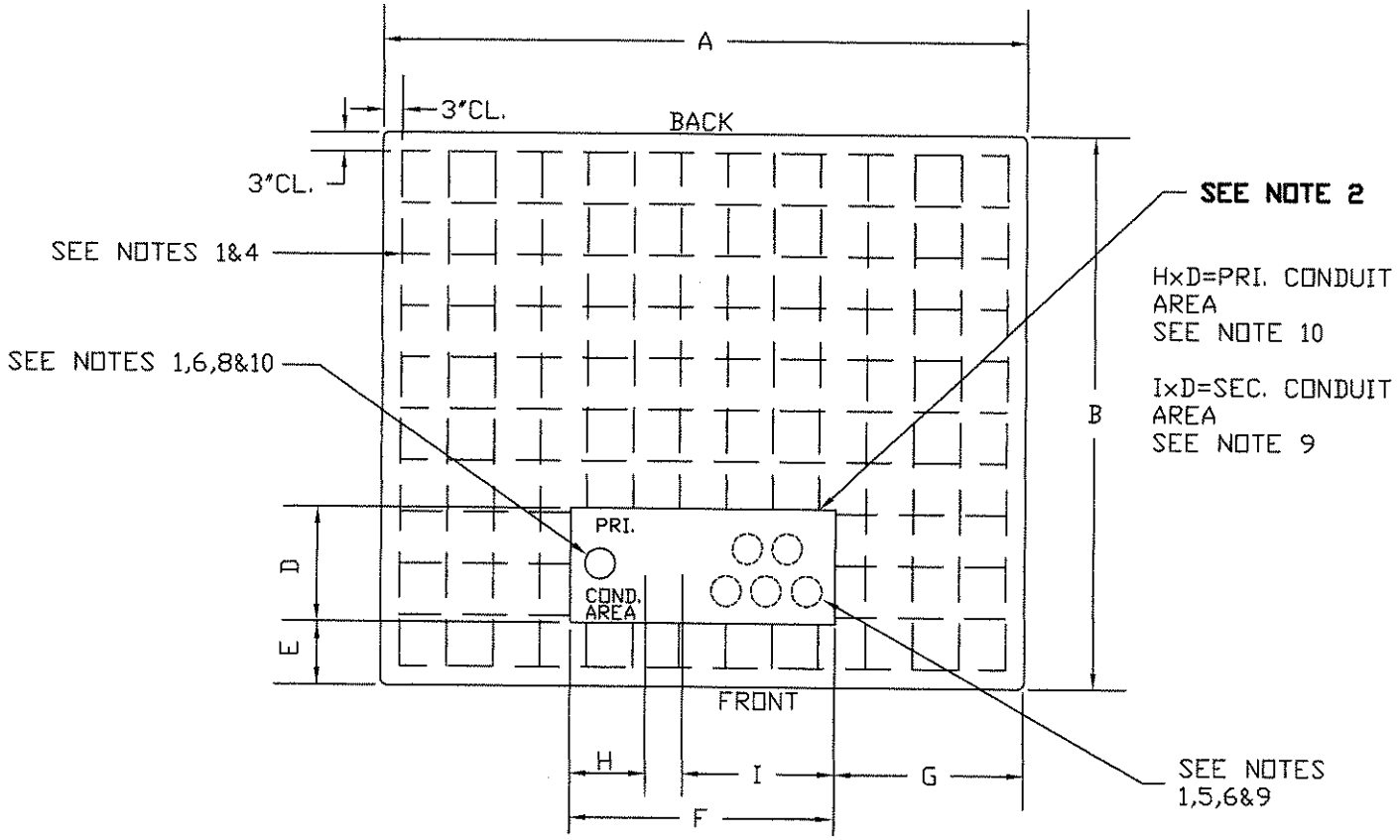
THREE PHASE PADMOUNT TRANSFORMER CONCRETE PAD SPECIFICATIONS

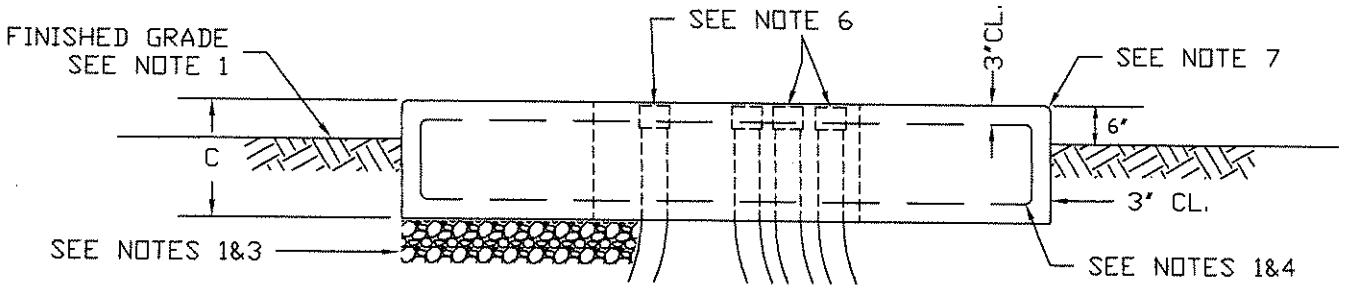
NOTES:

1. SEE FIG. 3 FOR ADDITIONAL REQUIREMENTS, SPECS. AND CLEARANCE REQUIREMENTS.
2. OPENING TO BE D X F DIMENSIONS (AFTER FORM IS REMOVED).
3. CRUSHED STONE ±3'-0" BENEATH PAD.
4. 6" X 6" X 6/6 WIRE MESH.
5. NUMBER OF SECONDARY CONDUITS TO CUSTOMERS EQUIPMENT TO SUIT LOAD AND SITE CONDITIONS.
6. CONDUITS NOT TO EXTEND ABOVE PAD.
7. PAD SHALL BE LEVEL AND ALL EDGES CHAMFERED.
8. WHEN REQUIRED, TWO (2) PRIMARY CONDUITS IN THIS AREA.
9. SECONDARY CONDUITS NOT TO EXCEED "I" DIMENSION.
10. PRIMARY CONDUITS SHALL BE WITHIN DIMENSION H.
11. ALL PAD DIMENSIONS ARE THE FINISHED PRODUCT, AFTER ALL FORMS ARE REMOVED.
12. WARNING: DO NOT PULL IN ANY PRIMARY OR SECONDARY WIRES. YOU MUST WAIT FOR THE TRANSFORMER TO BE DELIVERED.

PAD DIMENSIONS

TRANSFORMER SIZE-KVA	A	B	C	D	E	F	G	H	I
75-500	8'-6"	7'-3"	12"	13"	16"	42"	24"	12"	18"
750-1000	9'-0"	7'-8"	12"	18"	10"	42"	30"	12"	24"
1500-2500	11'-0"	9'-2"	18"	18"	10"	42"	42"	12"	24"





Drawing For Reference Only

28 Pad Construction Detail

Figure 10.40: Three-Phase Padmounted Transformer – Type II-A (Concrete)

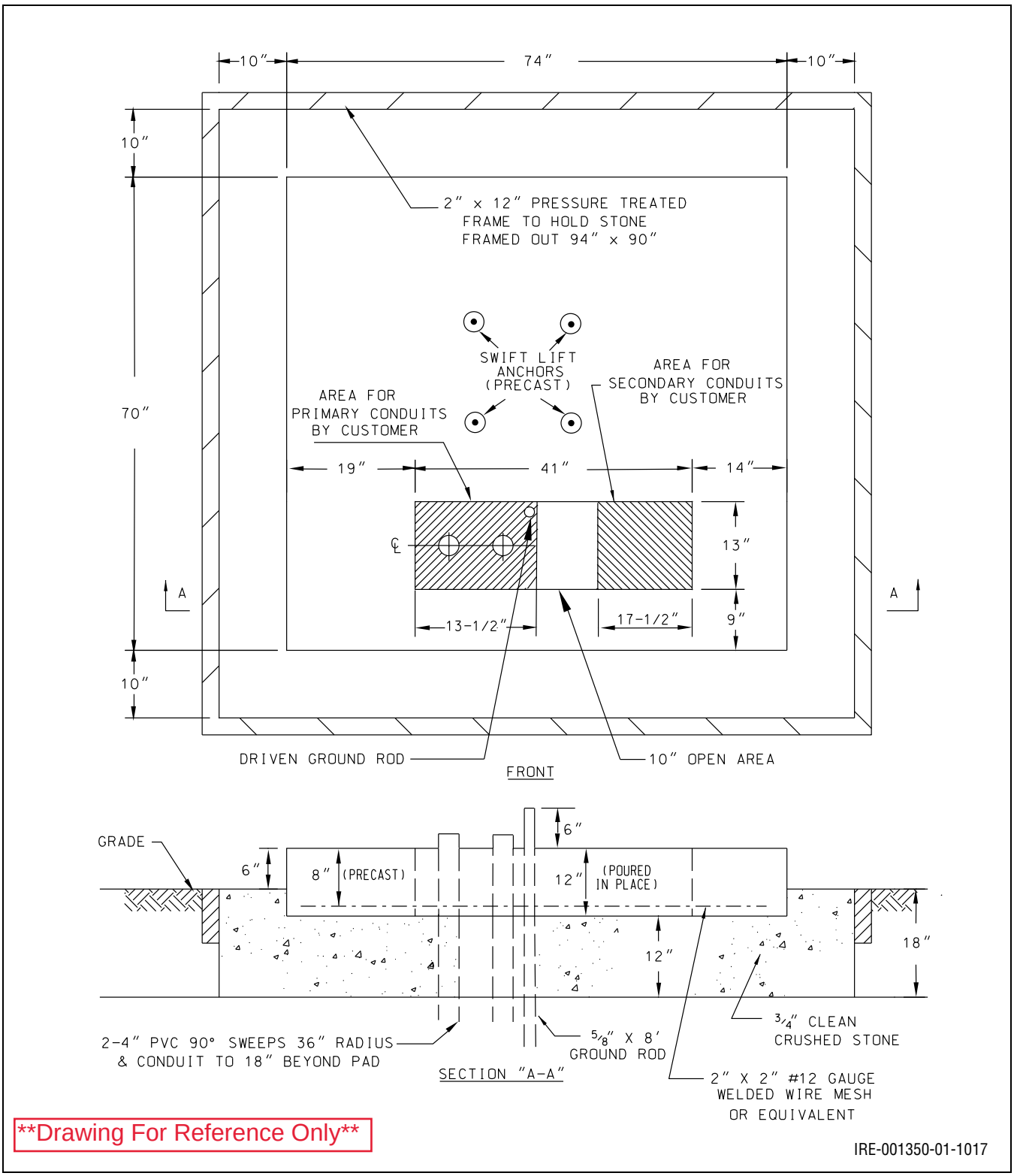
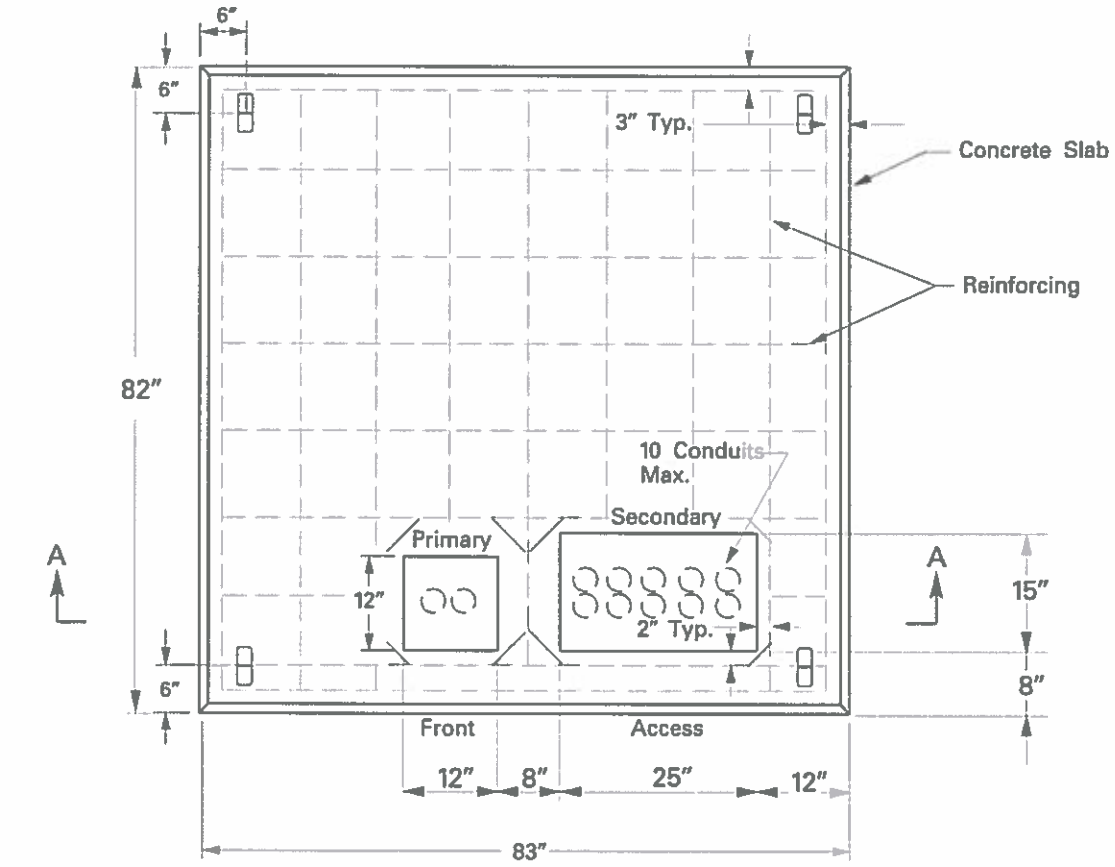
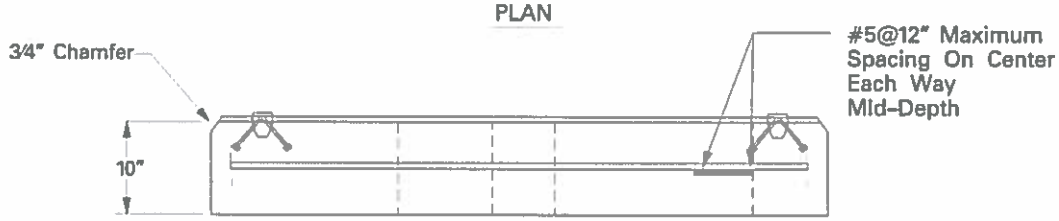


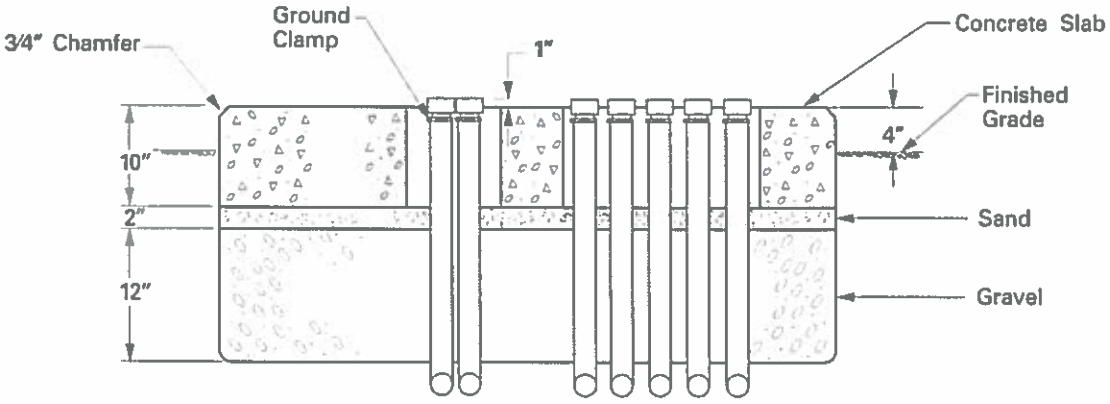
Figure 27.0-2 15kV Transformer Pad 750- 2500kVA 44-114 (ref-44-114/UF8B)



PLAN



REBAR DIAGRAM



SECTION A–A

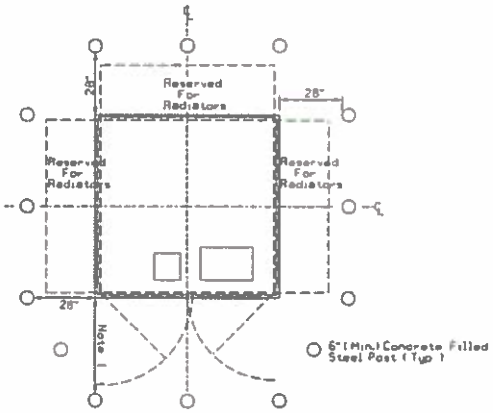
Drawing For Reference Only

11.0 Transformer Mechanical Protection/Bollards

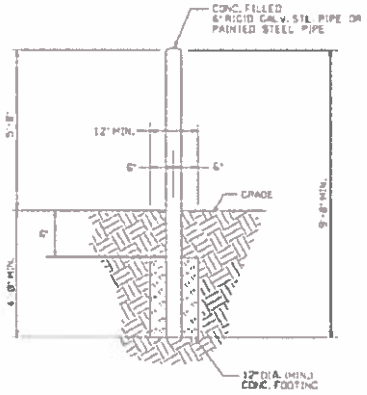
Whenever possible, equipment should be located so it is not subject to vehicular damage. If this is not feasible, adequate guards such as concrete filled pipes (Bollards) shall be placed to protect the equipment.

Bollards shall consist of 6 inch minimum diameter hot dip galvanized or painted steel pipes filled with concrete. When Bollards can not be painted at the time of installation, painted covers shall be installed. Page 56 shows manufacturer. Bollards are to be 5 feet above the ground and a minimum of 4 feet below the ground. Bollards to be set in a concrete footing as shown in detail below. Concrete is to be crowned on top of all bollards. Bollards shall be installed with due care to avoid interfering with ground grid and conduits. Refer to Pages 37 thru 40 for Transformer Pad dimensions. For switchgear locations, see pages 34 and 35.

The number, type (galvanized or steel) and locations of bollards shall be determined by Distribution Design/Planning, taking into account proximity to traffic and to buildings as well as other barriers to traffic. Other factors such as salt spray and fertilizers may impact type of bollard required. Suggested bollard locations and dimensions are shown below. The location of bollards shall not impede a door opening of 100 degrees.



10' Clear Space From Front Of Pad



TYPICAL BOLLARD DETAIL

Blow up drawing detailing this is located on page 44

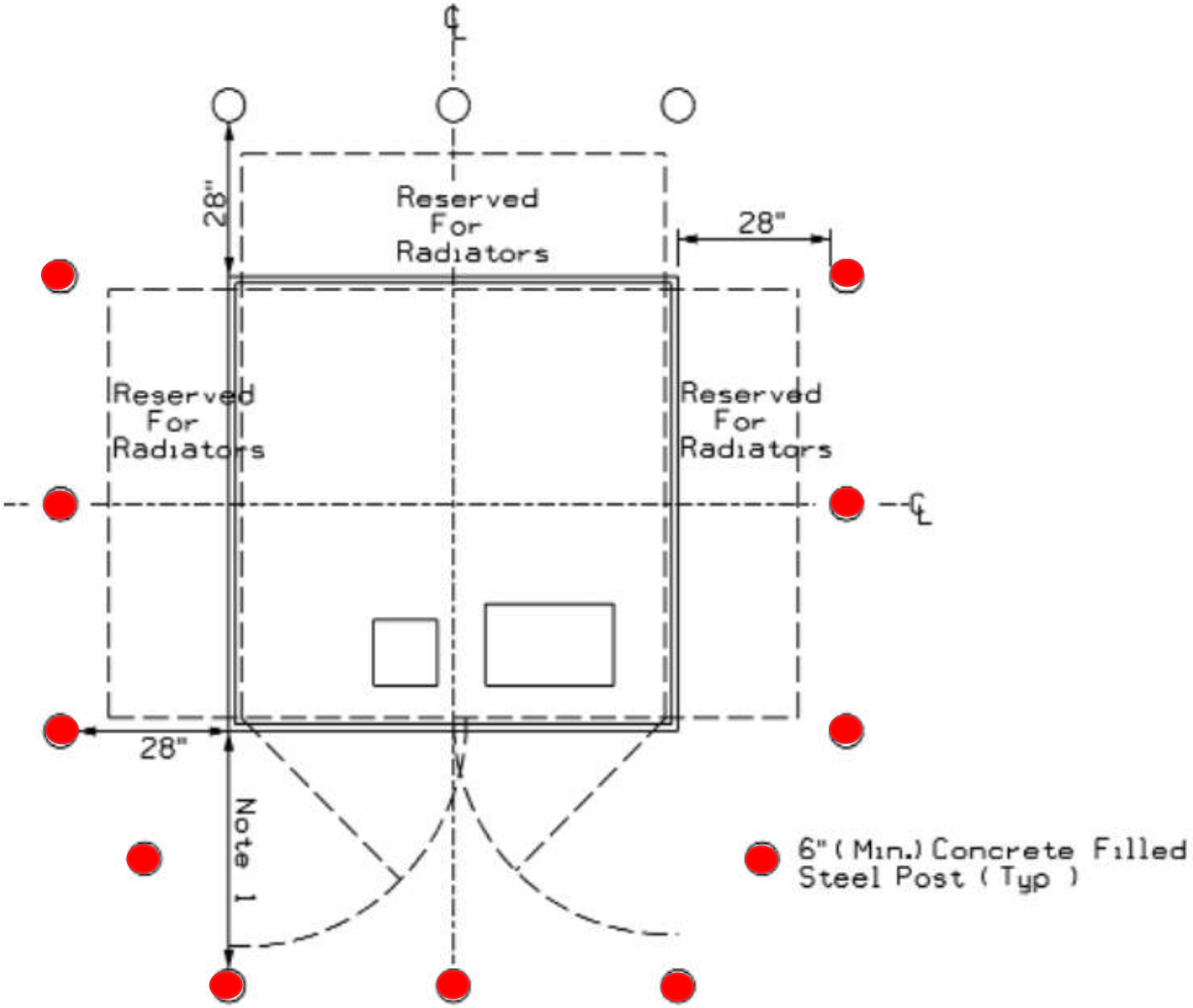
Bollards Required	●
Bollards Not Required	Ⓧ

Picture of Bollard cover, use for when Bollards can not be painted.

Notes:

1. *Six foot minimum clearance from front of pad.*
2. *Distribution Design/Planning shall designate the number and location of Bollards by marking the Bollards of this drawing as follows:*
3. *Bollards shall be supported with a 12" minimum diameter concrete footing 6" below grade to base of the bollard.*
4. *For installations around oil containment curbs, install bollards six feet minimum on all applicable sides.*

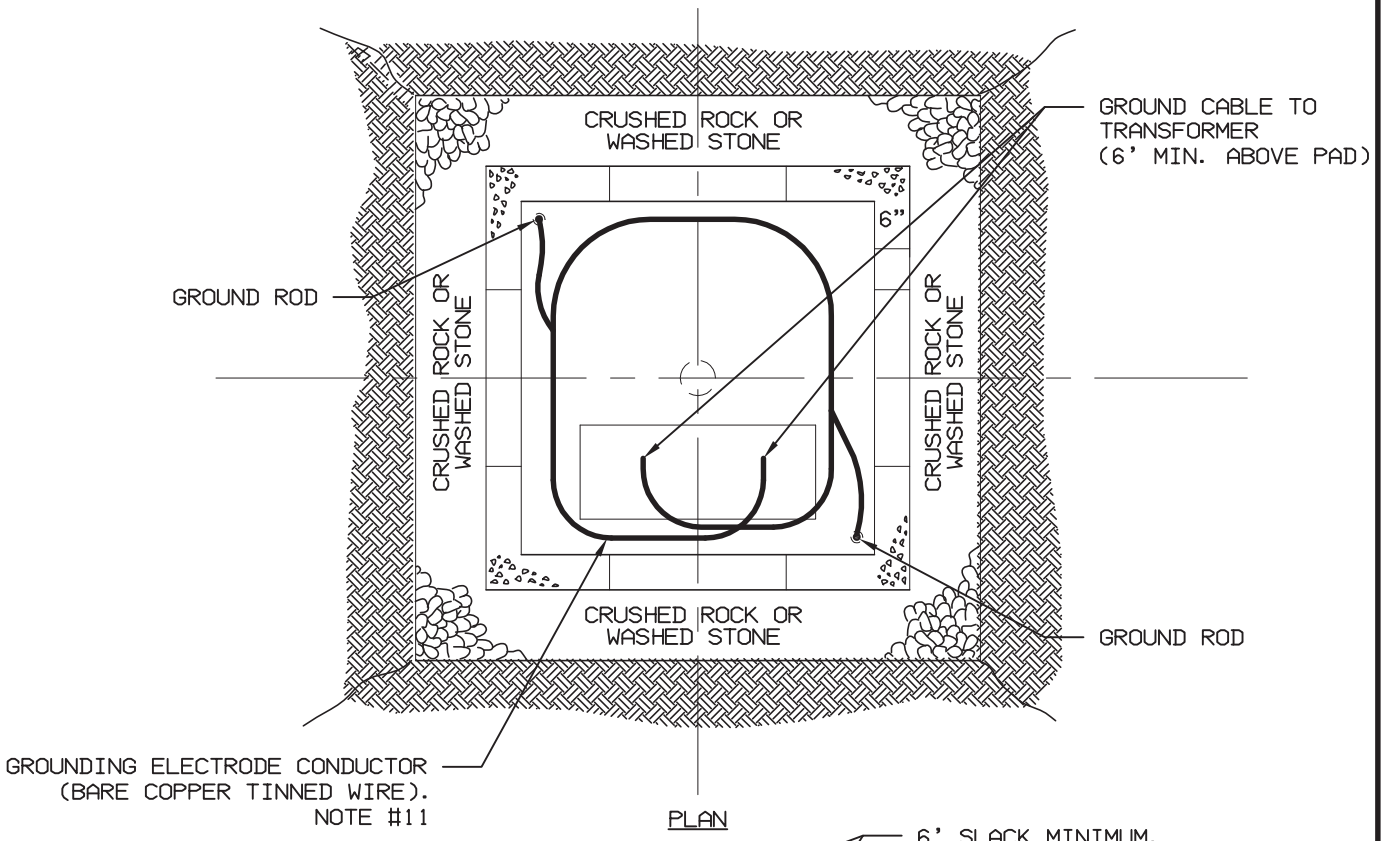
Drawing For Reference Only



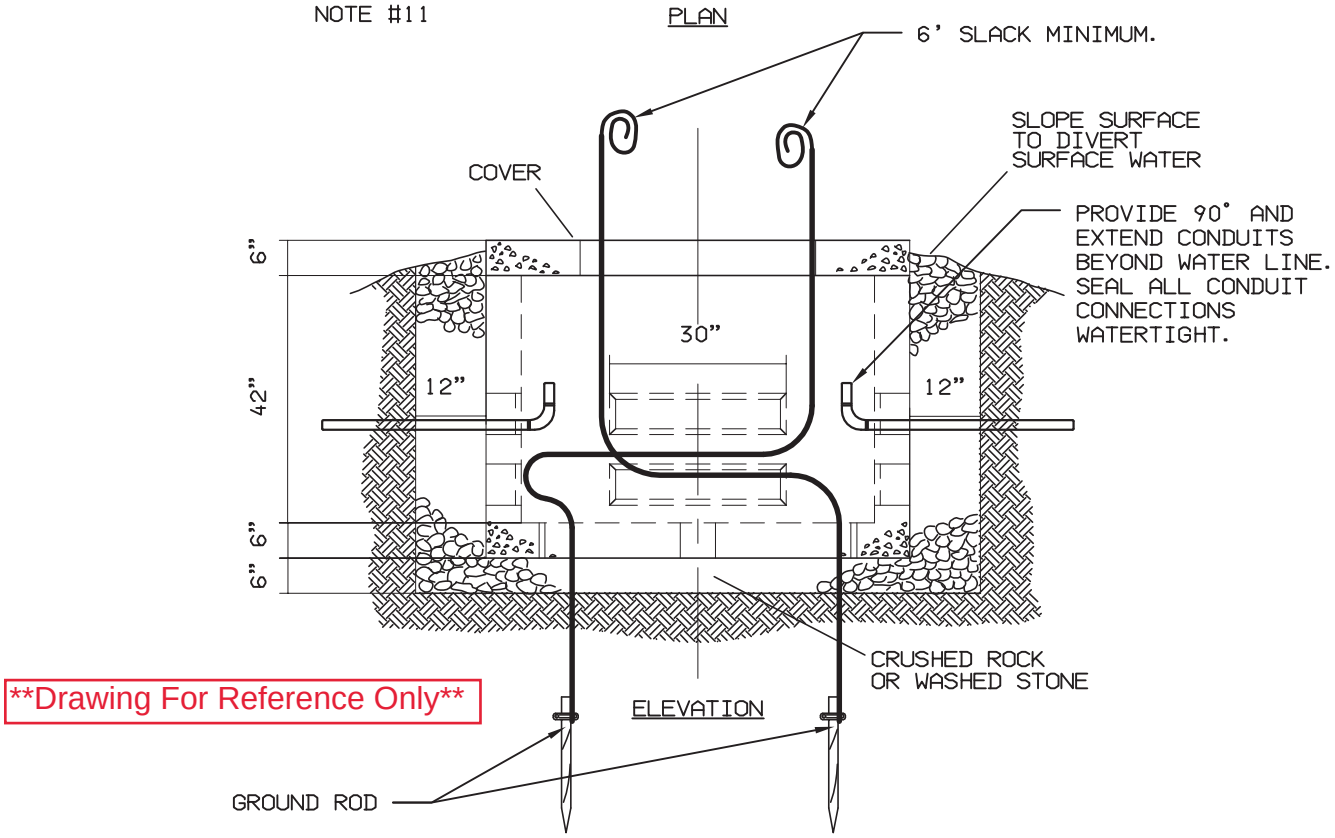
10' Clear Space From Front Of Pad

Drawing For Reference Only

FIGURE 1



PLAN



ELEVATION

Drawing For Reference Only

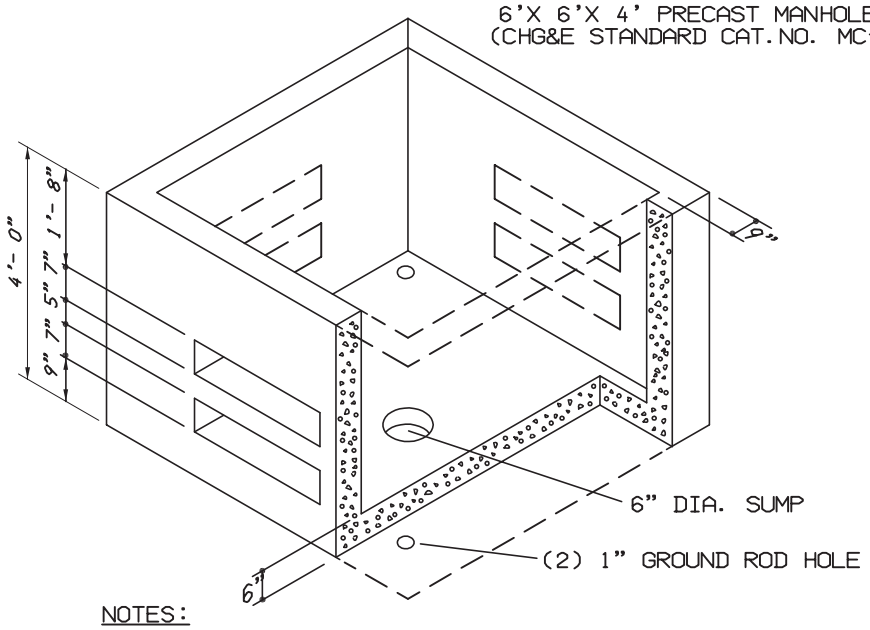
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	THREE PHASE PAD SPECIFICATIONS 5-34.5 KV 75-2000 KVA	ISSUE APP. APP.

CAD DRAWING
DO NOT REVISE MANUALLY

FIG. 22

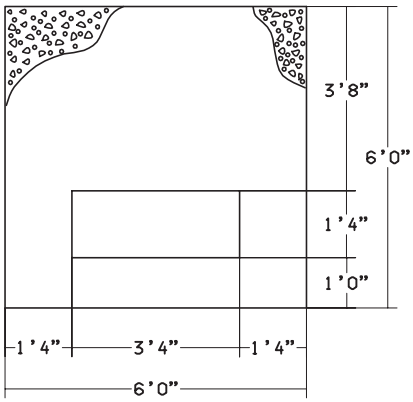
SHEET 2 OF 3

6'X 6'X 4' PRECAST MANHOLE
(CHG&E STANDARD CAT.NO. MC-100)

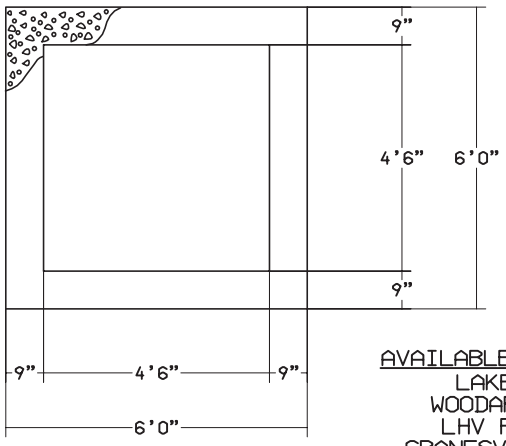


NOTES:
1. REINFORCED CONCRETE.
2. KNOCKOUTS - 7"X 30", 2 PER SIDE, FOUR SIDES.

WEIGHT:
BOX - 7899 LBS.
COVER - 2370 LBS.

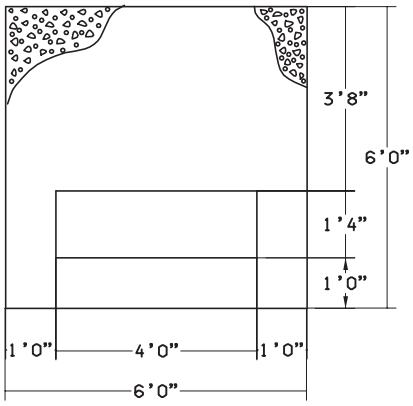


75 - 500 KVA TRANSFORMER COVER
(CHG&E STANDARD CAT. NO. MC - 101)

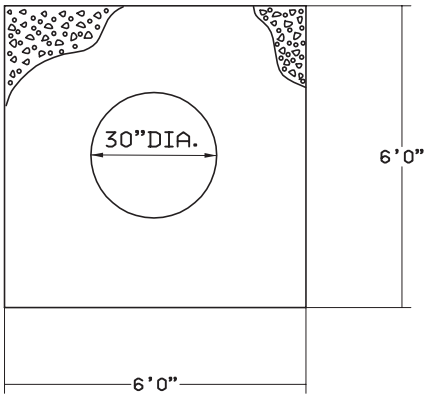


TYPE 2 COVER
(CHG&E STANDARD CAT. NO. MC - 102)

AVAILABLE MANUFACTURERS:
LAKELANDS H.V.
WOODARDS CONCRETE
LHV PRECAST INC.
CRANESVILLE BLOCK CO.

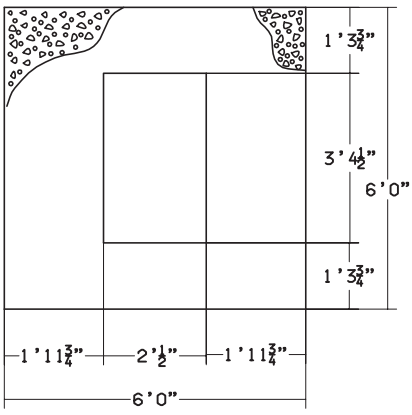


750 - 1000 KVA
TRANSFORMER COVER
(CHG&E STANDARD NO. MC - 101 M)



TYPE 1 MANHOLE COVER
(CHG&E STANDARD CAT. NO. MC - 103)

Drawing For Reference Only



TYPE 4 COVER
(CHG&E STANDARD CAT. NO. MC - 102 M)

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	THREE PHASE PAD SPECIFICATIONS 5 - 34.5 KV 75 - 2000 KVA	ISSUE APP. APP.

CAD DRAWING
DO NOT REVISE MANUALLY

NOTES:

1. THE CUSTOMER WILL NORMALLY PROVIDE THE PAD FOR THREE PHASE PAD-MOUNTED TRANSFORMERS. THE STANDARD IS INTENDED AS A GUIDE FOR PROVIDING THE SPECIFICATIONS FOR PAD INSTALLATIONS APPLICABLE TO PAD-MOUNTED TRANSFORMERS OF VARIOUS KVA SIZE AND DIMENSIONS. THE STANDARD INSTALLATION USES A PRE-CAST CONCRETE BASE AND COVER. THE CONCRETE BASE IS OF UNIFORM SIZE AND UTILIZES COVERS WITH DIFFERENT SIZED WINDOW OPENINGS TO ACCOMMODATE THE KVA SIZE OF THE PAD-MOUNTED TRANSFORMER. DETAILED SPECIFICATIONS AND INSTALLATION REQUIREMENTS ARE PROVIDED IN PAGES 1 TO 3 OF THIS STANDARD.

2. THE SIDES AND REAR OF THE PAD SHALL BE A MINIMUM OF TEN (10) FEET FROM THE WINDOWS AND FIRE ESCAPES AND A MINIMUM OF THREE (3) FEET (TEN (10) FEET PREFERRED) FROM ALL BUILDINGS, FENCES, OR OTHER OBSTRUCTIONS WHICH WILL IMPEDE THE FREE FLOW OF COOLING AIR AROUND THE TRANSFORMER. THE FRONT OF THE PAD (WINDOW SIDE) SHALL HAVE A MINIMUM OF TEN (10) FEET OF UNOBSTRUCTED WORKING SPACE.

3. ACCESS TO PAD AREA BY VEHICLE MUST BE POSSIBLE AT ALL TIMES TO INSURE PROPER OPERATION AND MAINTENANCE FUNCTIONS.

4. STONE FOR BASE AND SIDES OF THE BOX PAD SHALL BE 3/4" MINIMUM TO 1-1/2" MAXIMUM CRUSHED ROCK OR WASHED STONE. 1/2" CRUSHED ROCK OR WASHED STONE MAY BE USED FOR TOP 6" IN LOCATIONS WHERE WINDOW BREAKAGE MAY BE A PROBLEM. FOR THE BASE, STONE SHALL BE PLACED ON UNDISTURBED OR WELL TAMPED EARTH.

5. AREA AROUND THE BOX PAD SHALL BE GRADED SO THAT SURFACE WATER WILL DRAIN AWAY FROM CRUSHED STONE OIL CONTAINMENT.

6. THE BOX PAD SHALL BE INSTALLED SUCH THAT THE TOP SURFACE IS LEVEL TO WITHIN 1/4" HIGH TO LOW.

7. IN GENERAL, 5" CONDUIT SHOULD BE USED FOR BOTH PRIMARY AND SECONDARY CONDUCTORS. HOWEVER, THE SECONDARY CONDUIT SHOULD BE SIZED ACCORDING TO THE SECONDARY CONDUCTORS BEING INSTALLED.

8. PERMANENT SUPPORT SHALL BE PROVIDED FOR THE SECONDARY CONDUCTORS SUCH THAT THE TOTAL WEIGHT SUPPORTED BY EACH TRANSFORMER BUSHING SHALL NOT EXCEED TEN POUNDS. THUS SINGLE RUNS OF 500 MCM COPPER AND LARGER, 1000 MCM AL AND LARGER AND PRACTICALLY ALL MULTIPLE CONDUCTOR RUNS NEED TO BE SUPPORTED TO LIMIT THE STRESS ON THE BUSHINGS.

9. CENTRAL HUDSON RESERVES THE RIGHT TO REQUIRE SUITABLE BARRIERS IN TRAFFIC AREAS TO REDUCE THE PROBABILITY OF DAMAGE DUE TO TRUCKS, AUTOMOBILES, CONSTRUCTION EQUIPMENT, AND THE LIKE. SUITABLE BARRIERS MIGHT BE 4" (MINIMUM) STEEL PIPE, FILLED WITH CONCRETE, SET 4 ft. DEEP AND EXTENDING 3 TO 4 FEET ABOVE GROUND. BARRIERS SHOULD BE SET BEYOND THE OIL CONTAINMENT IN LOCATIONS WHICH WILL INTERCEPT VEHICLES YET NOT INTERFERE WITH THE INSTALLATION OR REMOVAL OF THE TRANSFORMER.

10. ALL GROUNDING MUST BE IN ACCORDANCE WITH COMPANY SPECIFICATIONS.

11. SIZE THE GROUNDING ELECTRODE CONDUCTOR AS FOLLOWS:
    - A. 200A SECONDARY SERVICES: #4 AWG.
    - B. 400A SECONDARY SERVICES: #1/0 AWG.
    - C. LARGER THAN 400A SECONDARY SERVICES: #3/0 AWG.

Drawing For Reference Only

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	THREE PHASE PAD SPECIFICATIONS 5-34.5 KV 75-2000 KVA	ISSUE APP. APP.

CAD DRAWING
DO NOT REVISE MANUALLY

Switchboard
(For Reference Only)

ACCESS TO:	Front Only	PHASE:	3P4W
CLASS:	2	AMPERE:	1200A
LABEL:	U/L SE	BUS MTL:	
VOLTAGE:	480/277V	PLATE:	Tin Plate
STYLE:	Bolt-On	RATING:	Fully Rated
BUS BRACING (RMS SYM):			65000A
DEV.MIN.INT.RATING (RMS SYM):			65000A

CONSOLIDATED EDISON NY. Spec. 377
CODE C3
C/T TYPE Window
P/T TYPE
PER GE DWG 75C143992 PV44
PER PWR CO SPEC. 75C143991 SH. 42

Switchboard / Device Information

Circuit No.	Device	Amps	Poles	Nameplates	Lugs/Cable Size	Notes
Main	SKLC12	1200	3			11,12,13,14,15
1	FBN6	15	1		(1) - #14 - #10 AWG CU - Mech. AL	
2	SGLA4	350	3		(2) - 2/0 - 250 MCM CU - Mech. AL	
3	SGLA4	350	3		(2) - 2/0 - 250 MCM CU - Mech. AL	
4	SGLA4	350	3		(2) - 2/0 - 250 MCM CU - Mech. AL	
5	SGLA4	350	3		(2) - 2/0 - 250 MCM CU - Mech. AL	

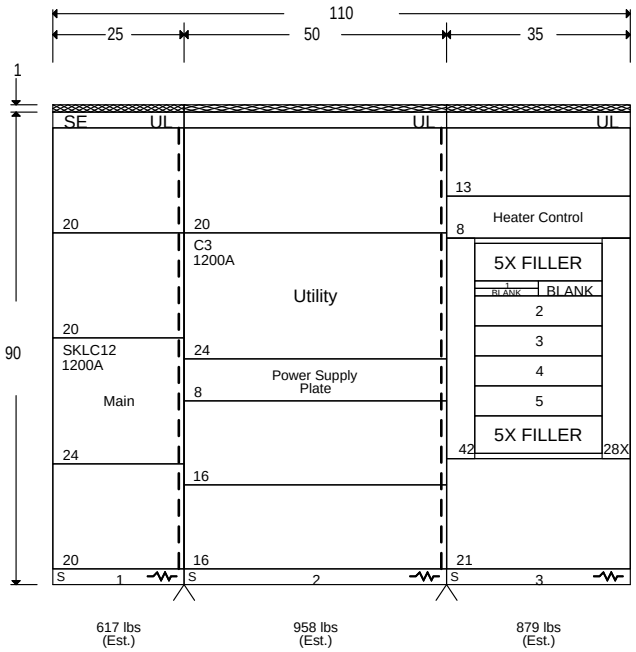
NOTES:

1. Switchboard furnished with a rainproof TYPE 3R (non-walk-in) enclosure.
   NOTE: See plan view for details.Need additonal 1 inch space clearance on top and 1.5 inch clearance on the rear of the swbd.
2. Equipment ground bus furnished with lugs.
3. Switchboard furnished with Portable Test Set - GTUTK20.
4. Switchboard furnished with Nameplates.
5. All Nameplates to be fastened with screws.
6. Shipping splits between each section, ship each section separately.
7. Switchboard furnished with bottom floor plates.
8. Switchboard furnished with section space heaters.
9. Switchboard furnished with thermostat control for section space heaters.
10. Switchboard furnished with fully rated panel.
11. Device furnished with MET (LSIG) programmer.
12. Device is furnished with integral ground fault protection.
13. Device is furnished with RELT (Reduced Energy Let Through).
14. Device furnished with padlocking provisions.
15. Device requires RELT or ZSI feature if Authority having jurisdiction has adopted NEC 2014 code requirements.
16. Estimated total factory connected wiring points for the lineup 36.
17. Estimated shipping weight for the lineup is 2454 lbs.

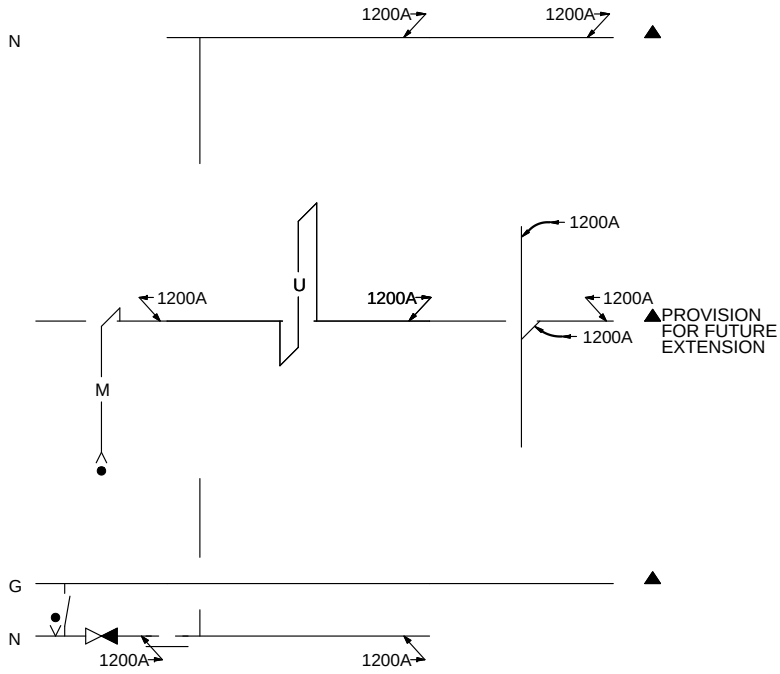
Drawing For Reference Only

PROJECT NAME : NYPA EVI SWBD	DWG TITLE: Device Information	CREATED BY: Sherif, Tarek	PRODUCT NAME: *Spectra Series* ™ *Switchboard*	GE Industrial Solutions	DRAWING NO:
CUSTOMER: ABB INC, CARY		CHECKED BY:			ITEM NO: 1
		APPROVED BY:			MARKS:
		DATE: 6/8/2019 2:09:21 AM			QUOTE NO: U77-00007435
		REVISION NO.:			SHEET: 1 of 3

ACCESS TO: Front Only	PHASE: 3P4W	CONSOLIDATED EDISON NY. Spec. 377	
CLASS: 2	AMPERE: 1200A	CODE C3	
LABEL: U/L SE	BUS MTL: [redacted]	C/T TYPE Window	
VOLTAGE: 480/277V	PLATE: Tin Plate	P/T TYPE	
STYLE: Bolt-On	RATING: Fully Rated	PER GE DWG 75C143992 PV44	
BUS BRACING (RMS SYM):	65000A	PER PWR CO SPEC. 75C143991 SH. 42	
DEV.MIN.INT.RATING (RMS SYM):	65000A		



FRONT VIEW



BUSSING DIAGRAM

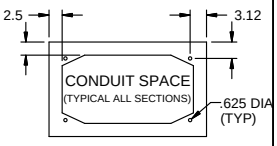
● (4) 250 - 500 MCM CU
MECHANICAL AL
PER PHASE & NEUTRAL

Drawing For Reference Only

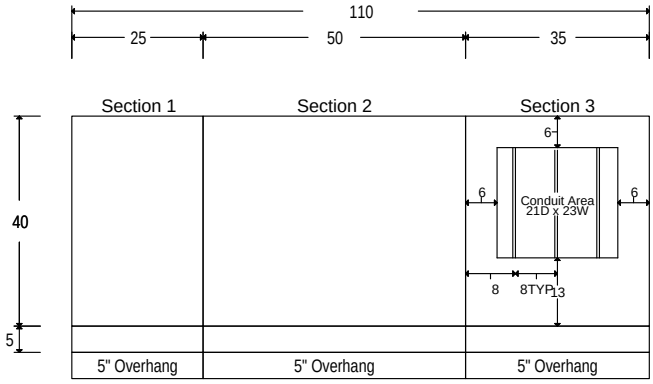
PROJECT NAME : NYPA EVI SWBD	DWG TITLE: Front View/ Bussing	CREATED BY: Sherif, Tarek	PRODUCT NAME: *Spectra Series* ™ *Switchboard*	GE Industrial Solutions	DRAWING NO:	
CUSTOMER: ABB INC, CARY		CHECKED BY:			ITEM NO:	1
		APPROVED BY:			MARKS:	
		DATE: 6/8/2019 2:09:21 AM			QUOTE NO:	U77-00007435
		REVISION NO.:			SHEET:	2 of 3

ACCESS TO:	Front Only	PHASE:	3P4W
CLASS:	2	AMPERE:	1200A
LABEL:	U/L SE	BUS MTL:	
VOLTAGE:	480/277V	PLATE:	Tin Plate
STYLE:	Bolt-On	RATING:	Fully Rated
BUS BRACING (RMS SYM):			65000A
DEV.MIN.INT.RATING (RMS SYM):			65000A

CONSOLIDATED EDISON NY. Spec. 377
CODE C3
C/T TYPE Window
P/T TYPE
PER GE DWG 75C143992 PV44
PER PWR CO SPEC. 75C143991 SH. 42

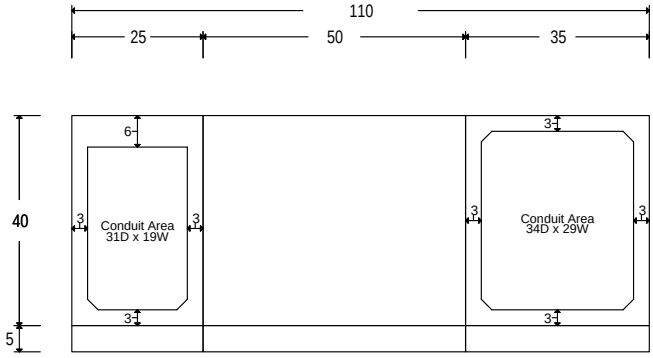


Top Conduit Area



Front Plan View

Bottom Conduit Area



Front Plan View

Drawing For Reference Only

PROJECT NAME : NYPA EVI SWBD	DWG TITLE: Conduit View	CREATED BY: Sherif, Tarek	PRODUCT NAME: *Spectra Series* ™ *Switchboard*	GE Industrial Solutions	DRAWING NO:	
CUSTOMER: ABB INC, CARY		CHECKED BY:			ITEM NO:	1
		APPROVED BY:			MARKS:	
		DATE: 6/8/2019 2:09:21 AM			QUOTE NO:	U77-00007435
		REVISION NO.:			SHEET:	3 of 3

Fast Charging Stations (For Reference Only)

Manufacturers:

- ABB - Terra High Power GEN III
- BTC Power - Modular HPC System
- Signet EV - DP 350K & HPC 175K
- Tritium - Veefil PK HPC

PRODUCT LEAFLET

Electric Vehicle Infrastructure

Terra High Power - GEN III

ABB's Terra HP generation III charge post is a 175 to 350 kW high power charger ideally suited for highway corridor and EV fleet applications. With ABB Dynamic DC power sharing technology, power cabinets can be connected to charge one vehicle at up to 350 kW and 500 A or two vehicles simultaneously at up to 175 kW and 375 A. This architecture enables higher utilization of charging assets.

Premium user experience

Easy to use

Terra HP generation III charge post offers a premium charging experience with high output power at low noise levels, a long charge cable with cable retraction system, small footprint of the charge post, and several authentication, payment and customization options.

Brand experience

Customizable branding

Make the charger a real part of your brand image for an optimum user experience. Customize the charger by applying wrapping, selecting a matching color for the LED strips, and customizing the user interface to match brand identity.

Profitable operation

Built for business

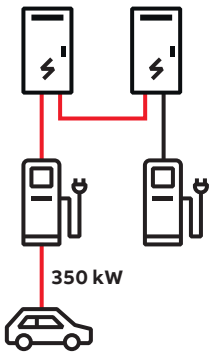
Terra HP fully supports commercial operation with Dynamic DC power sharing to optimize use of charging assets, site energy management solutions to enable future growth while optimizing grid connection costs, and remote software updates enabling a future proof system supporting today's and tomorrow's EVs.

Drawing For Reference Only

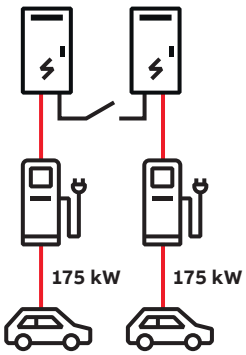
Key features
- Long cables with cable retraction system.
- 500 A charging at low noise levels.
- Elegent charge post in small foot-print with integrated cooling system.
- High level of user safety backed by third party testing.
- Integrated RGB LED strips with customizable color.

Optional features
- Dynamic DC power sharing.
- Customizable user interface.
- Integrated payment terminal.

Dynamic DC power sharing illustrated



High power charging at up to 350 kW and 500 A at either charge post.



Simultaneous charging at up to 175 kW and 375 A at both charge posts.

Why charging operators prefer ABB
- ABB Ability™ Connected Services:
  - Charger Connect: Easily connect chargers to OCPP back offices, over-the-air software updates.
  - Charger Care: Remote diagnostics and resolution, service case management, notifications, data export.
- ABB's decade of EV charging experience and close cooperation with EV OEMs, networks and fleets.
- High volume production with a globally distributed manufacturing base.
- Industry leading uptime with a global and local service presence.

For more information

abb.com/ev-charging

E-mail: info.evi@nl.abb.com

Technical specifications	
Charge post	
Charging performance	500 A continuous up to 35°C with noise level of ≤60 dB(A) at 1 m
Charge cable	5.3 m / 17 ft with retraction system
DC output current	500 A CCS (liquid cooled) 200 A CHAdeMO
DC output voltage	150 – 920 V DC
Maximum noise level	68 dB(A) at 1 m
Touch screen	15" high brightness
RFID	ISO/IEC 14443A/B, ISO/IEC 15393, FeliCa™1, NFC, Mifare, Calypso
Network connections	4G, Ethernet
Dimensions (H x W x D)	2458 x 590 x 425 mm / 96.8 x 23.2 x 16.7 in
Weight	250 kg / 551 lbs
Connector types	CCS1 / CCS2 / CHAdeMO
Power cabinet	
Output power	175 kW up to 40°C
Output power derating	5% per 5 additional degrees
Output current	1 cabinet: 375 A 2 cabinets: 500 A
AC connection	L1, L2, L3, GND (no neutral)
CE version	400 V AC ± 10%, 50 Hz (option: 60 Hz) 277 A, 192 kVA nominal Recommended breaker: 315 A
UL version	480Y/277 V AC +/-10%, 60 Hz 231 A, 192 kVA nominal Recommended breaker: 300 A
CSA version	600 V AC ± 10%, 60 Hz 185 A, 192 kVA noninal Recommended breaker: 250 A
Short circuit rating	CE: 25 kAIC UL/CSA: 65 kAIC
Overvoltage	CAT III
Efficiency	≥ 94% at full load
Power factor	≥ 0.97
THDi	≤ 8%
EMC emission (conducted)	Standard: Class A (industrial) Optional: Class B (residential) with external filter
Noise level	≤67 dB(A) at 1 m
Dimensions (H x W x D)	2030 x 1170 x 770 mm / 79.9 x 46.1 x 30.3 in
Weight	1340 kg / 2954 lbs
System	
Compliance	CE, cTUVus for UL and Canada
Environment	IP54, NEMA 3R outdoor use IK10 (screen: IK08)
Operating temperature	-35 °C to +55 °C (derating applies)
Storage	+5 to +40 °C with RH 5 to 85%
Altitude	2000 m / 6560 ft

Drawing For Reference Only

Modular HPC System: 100, 150, 200 KW

PARAMETERS	POWER ENGINE CABINET MODEL		
	HPCT-100	HPCT-150	HPCT-200
Power Rating	100 kW	150 kW	200 kW
Number of Power Engines	2	3	4
Input Power	480VAC-3P@132A	480VAC-3P@198A	480VAC-3P@264A
Input Power AC Current (FLA)	132 A	198 A	264 A
Power Stage Efficiency Rating	> 92% (Full Load)		
Max. Out DC Current up to 920 VDC	108 A	162 A	216 A
Max. Out DC Current up to 500 VDC	250 A	375 A	500 A
Max. Output DC Voltage	50 - 950 VDC		
Max # of Dispensers	2	2	2
Dimension & Weight	42“W x 35”D x 82“H, 1400/1650/1900 lbs		

PARAMETERS	DISPENSER MODEL					
	HPCD-125		HPCD-200		HPCD-350	
Rated Output Current	125 A	125 A	200 A	200 A	350 A	200 A
Connectors	SAE CCS1	CHAdeMO	SAE CCS1	CHAdeMO	SAE CCS1 (Liquid Cooled)	CHAdeMO
Max DC Voltage (VDC)	500 V	500 V	950 V	500 V	950 V	500 V
Network	OCPP 1.5/1.6, BTCP Network					
Output Power	50 kW max		200 kW max		350 kW max	
Input Power (Auxiliary)	120 VAC					
Input Current (Auxiliary)	20 A					
Breaker Size	30 A					
Dimension & Weight	22“W x 15”D x 97“H, 600 lbs					

ENVIRONMENTAL AND COMPLIANCE (SYSTEM)	
Ambient Condition	-30 °C to +50 °C, 95% Humidity, 6000 ft Altitude. NEMA 3R
Safety Compliance	ETL Listed for USA and Canada: Complies with UL 2202, UL 2231 UL50E, NEC Article 625, CSA STD C22.2 No. 107.1 FCC Part 15 Class A

Drawing For Reference Only

STANDARD

- Dynamic Power Allocation in 50kW increments
- System available in one or two dispenser configuration
- Payment types: CC, RFID (OCPP Network Enabled)
- 15” Outdoor Color Display
- Connector Configuration:
  - SAE J1772 Combo CCS1 and CHAdeMO

OPTIONAL

- ISO 15118:2014
- Customizable Backlit Acrylic Topper
- Apple & Android Pay (based on network provider)
- Connector Configurations:
  - Dual SAE J1772 Combo CCS1
  - Single CHAdeMO
  - Single SAE J1772 Combo CCS1

BTCPOWER
WWW.BTCPOWER.COM
1719 S Grand Ave, Santa Ana CA, 92705

Electric Vehicle Charging Station

Installation Manual

DP350K-DCM
DP350K-CC
HPC-175K

Revision History

Revised Version	Revised Date	Revised Details
1.0	01.13.2020	Inital

Models

Dispenser

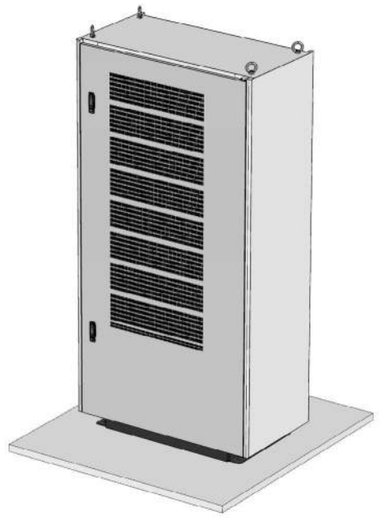
HDP 350K - NCM2

Combo + Combo

Dispenser

HDP 350K - NCC

Combo + CHadeMo

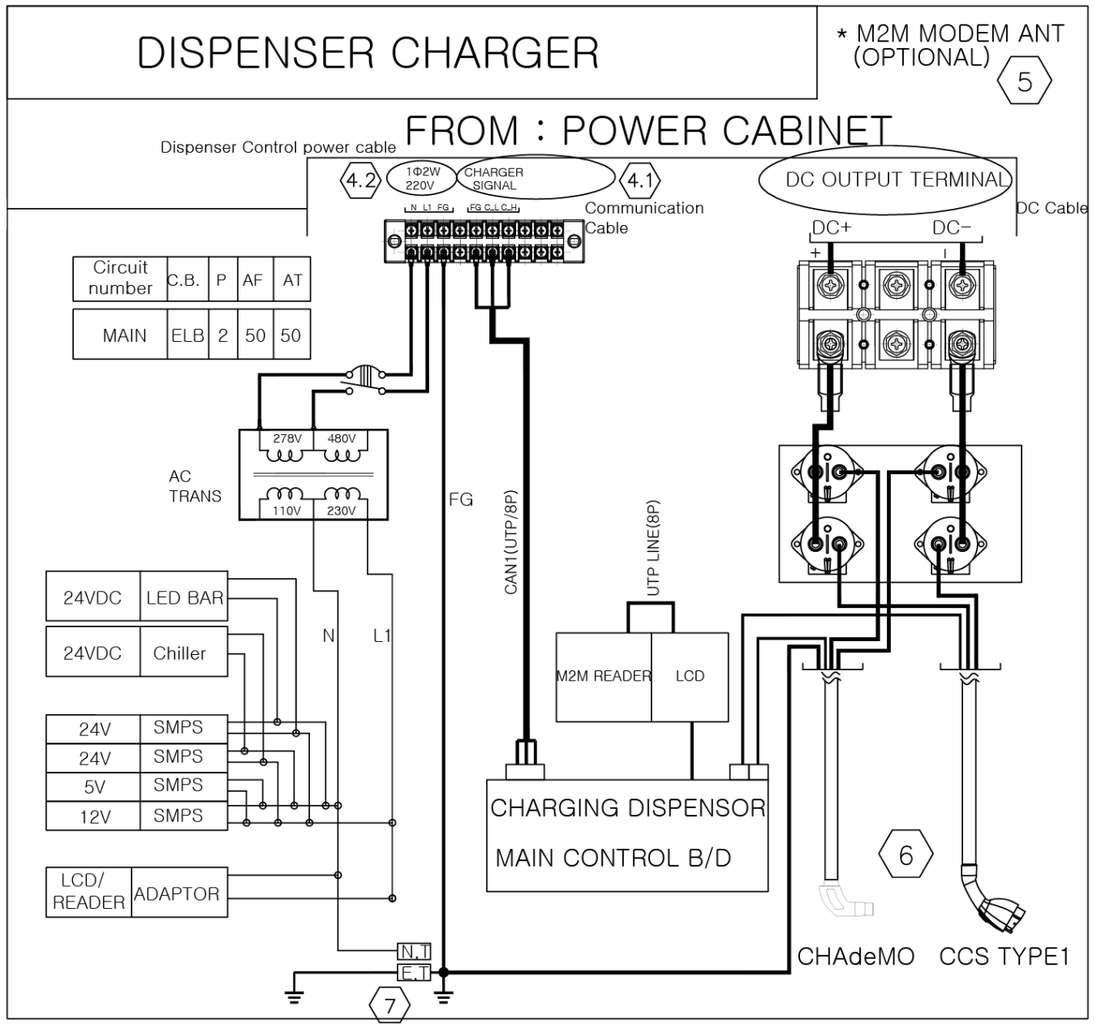


Power cabinet

HPC 175K

Drawing For Reference Only

Dispenser - 2/2



Specifications

Specifications

The following table lists the specifications for the EV Charging Station.

Power Cabinet

Item		HPC 175K (1 set) (150 kW power config)	HPC 175K (2 sets) (350W power config)
AC Input	Voltage	3-phase, 480y/277 (4-wire)	
	Voltage Range	10 %	
	Frequency	50/60 Hz	
	Current (peak)	227 A	
	Power	173 kW	346 kW
DC Output	Max. Voltage	DC 200 – 920 V	
	Max. Power	161 kW	322 kW
Power Factor		More than 0.99	
Efficiency (full load)		94.5 %	
Mfr recommended overcurrent protection		300 A	
Total Harmonic Distortion		3.9	
Operating Temperature		-30 °C – +50 °C (-22 °F – +122 °F)	
Humidity		95 %	
IP Rating		Nema, Type 3R, Rain Proof	
IK Rating		IK08	
Short Circuit Rating		65 kA (part number starting with QB)	
Altitude		3,000 m	
Power Cabinet Weight		882 lb (400kg)	1,764 lb (800kg)
Power Cabinet Dimensions (W x D x H)		41.97 x 29.45 x 83.39 in (1,066 x 748 x 2,118 mm)	83.94 x 22.05 x 83.39 in (2,132x 748 x 2,118 mm)

Drawing For Reference Only

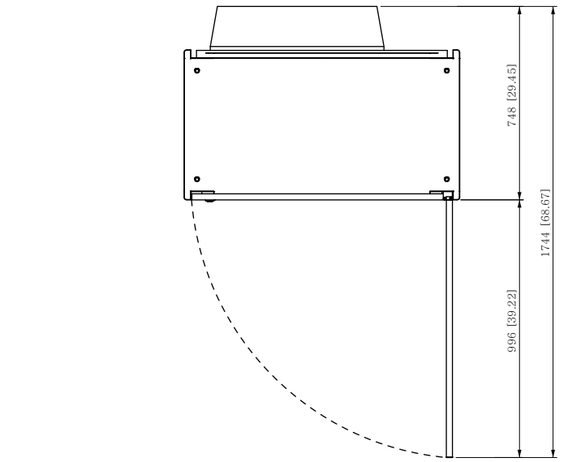
Dispenser

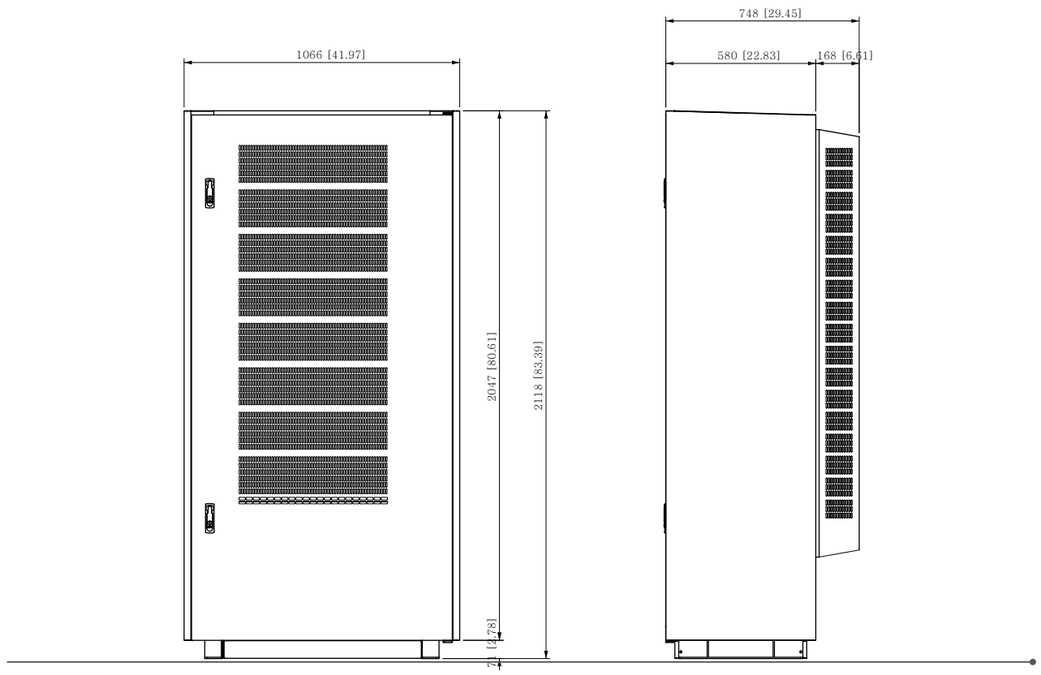
Item		Description	
		Model: HDP350K-NCM2 (CCS1 + CCS1 config)	Model: HDP350K-NCC (CCS1 + CHAdeMO config)
DC Output	Max. Voltage	DC 200 – 920 V	
	Max. Current	460V/500A, 920V/350A	
	Max. Power	350KW	350 kW for CCS1 100 kW for CHAdeMO
Operating Temperature		-30 °C – +50 °C (-22 °F – +122 °F)	
Protective Function		• Reverse polarity protection • Short circuit protection • Over temperature protection • Over-voltage / Under-voltage protection • Ground fault detection	
Display (LCD)		15 in touch screen	
IP Rating		NEMA, Type 3R, Rain Proof	
IK Rating		IK08	
Altitude		3000 m	
Dispenser Weight		551 lb	
Dispenser Dimensions (W x D x H)		28.03 x 22.05 x 99.24 in (712 x 560 x 2,521 mm)	
Payment		Debit and credit cards, mobile, NFC payments, swipe, contact or contactless	
Communication		OCPP 1.6 JSON over Websockets	

Dimensions

The following diagrams show the dimensions of the Power Cabinet and Dispenser.

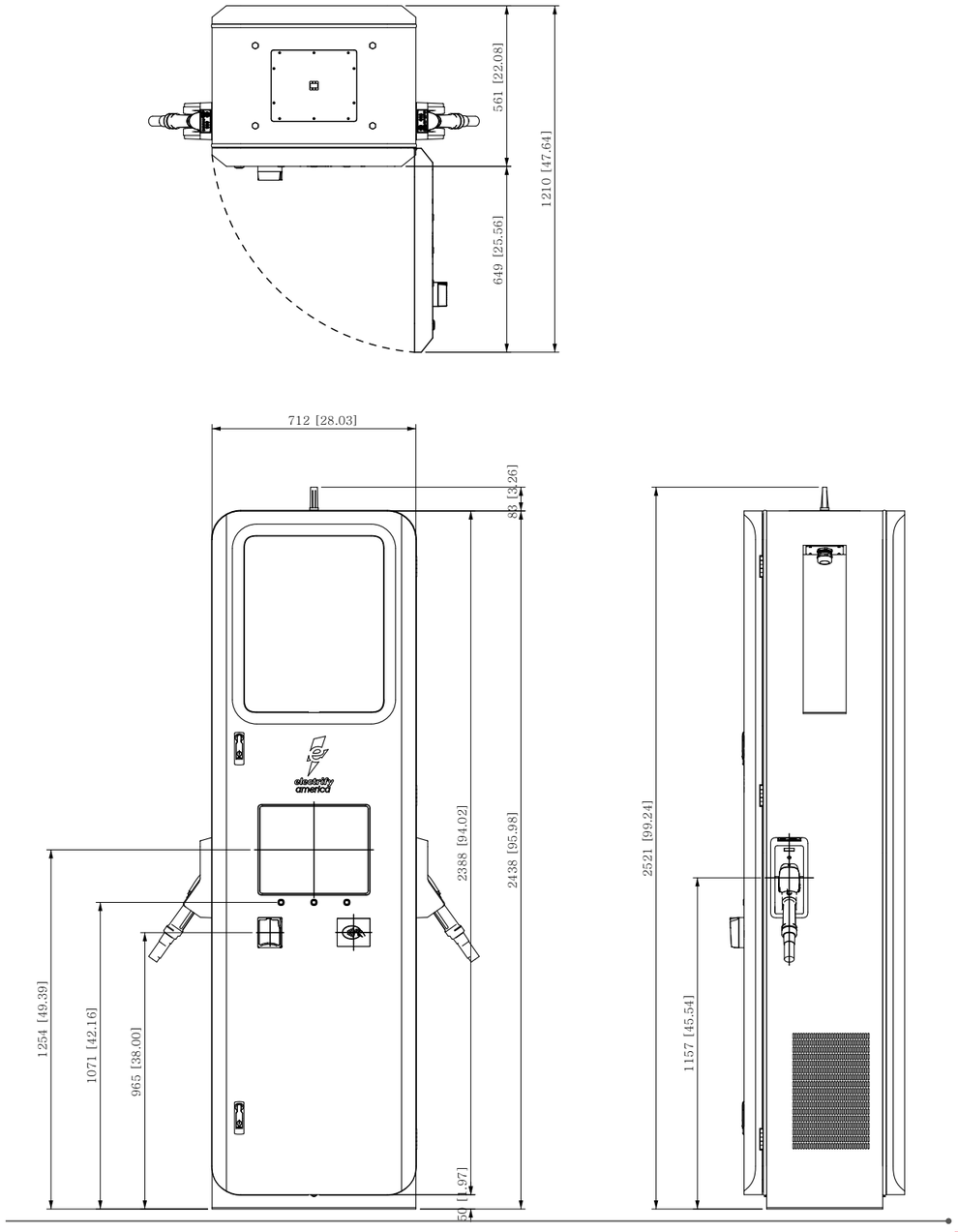
Power cabinet





Drawing For Reference Only

Dispenser

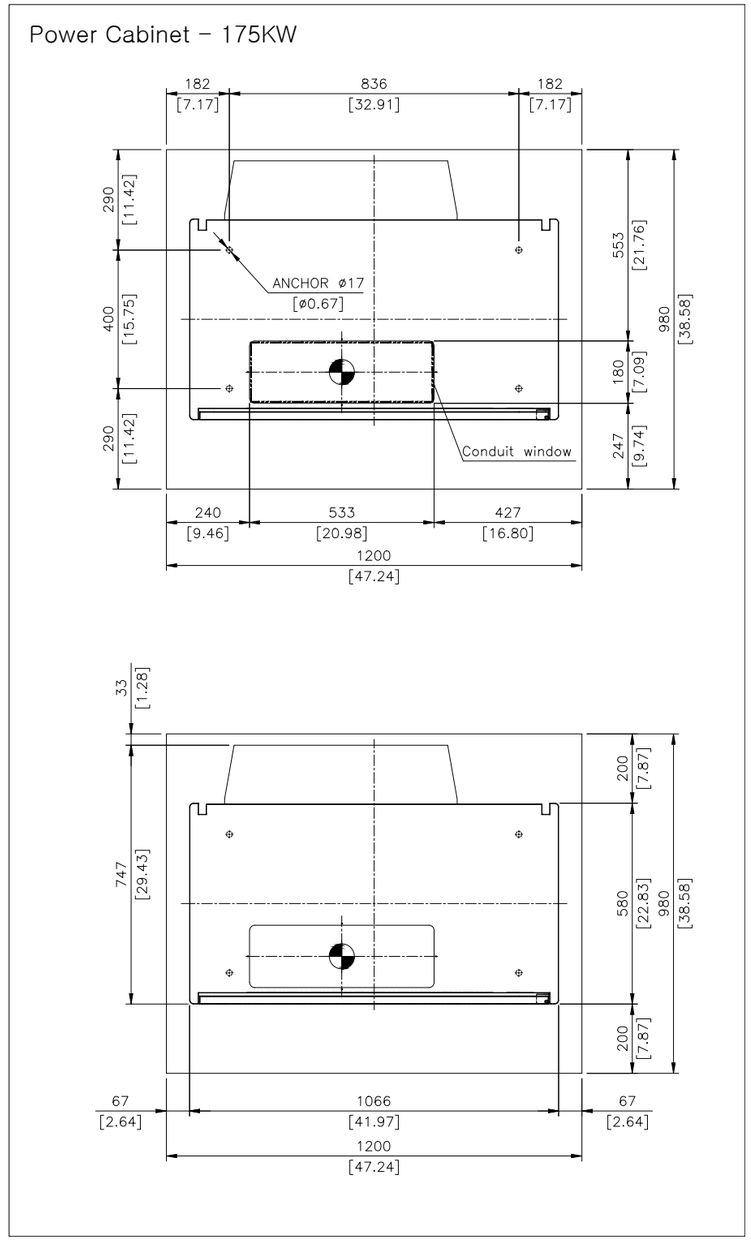


Drawing For Reference Only

Installation Pad Dimensions

The following diagrams show the dimensions of the installation pads for the Power Cabinet and Dispenser.

Power cabinet - 175 kW



DATA SHEET

TRITIUM

Veefil PK

High Power Charging System

A scalable, flexible high power charging (HPC) system for commercial operators.

+ High energy efficiency
+ Dramatically smaller footprint
+ Effortless charging experience
+ Minimal maintenance
+ Maximum uptime
+ IP65

Dependable • Scalable • Profitable

NOW • IN THE FUTURE • ALWAYS

350kW

Drawing For Reference Only

USER UNIT

CONNECTOR	CCS Type 1, CCS Type 2 & CHAdeMO Single or dual cable option
OUTPUT POWER	Up to 350kW
OUTPUT VOLTAGE	Up to 920Vdc
OUTPUT CURRENT	CCS: Up to 500A CHAdeMO: Up to 200A
IP RATING	IP65
EFFICIENCY	98.5%
OPERATING TEMPERATURE	-35°C to 50°C
CREDIT CARD READER	Optional
DIMENSIONS	1998(H) x 980(W) x 525(D) mm
WEIGHT	260Kg
RFID READER	MIFARE ISO/IEC14443A/B, ISO/IEC15693, ISO/IEC18000-3, FeliCa, NFC, EMV 2.0
CABLE LENGTH	4.3m
THD	<5%
IK RATING	IK 10

POWER UNIT

INPUT	2 X 480V 3ph 50Hz
OUTPUT	2 X 950Vdc 350kW
IP RATING	IP54
EFFICIENCY	>98%
POWER FACTOR	0.99
OPERATING TEMPERATURE	-35°C to 50°C
NETWORK CONNECTION	Ethernet to User Unit and Control Unit Site Power Control
WEIGHT	700Kg
DIMENSIONS	2350(H) x 603(W) x 1230(D) mm
IK RATING	IK 10

CONTROL UNIT

WIRELESS CONNECTIVITY	3G/4G cellular communications with failover redundancy
WIRED CONNECTIVITY	Ethernet capability
POWER SUPPLY	Battery-backed UPS functionality for reliable telemetry at all times
SOFTWARE SUPPORT	OCPP1.6J support for management and billing
IT SECURITY	SSH with EC keys & unique password for manufacturer diagnostics
POWER SHARING	Configurable site-level power demand management
POWER CONTROL	Power sharing algorithms can be easily added and modified to allow for various sharing configurations
CONTROL PLATFORM	Gives owner/operators vital real-time information on the status and performance of the charging station
WEIGHT	220Kg
DIMENSIONS	2350(H) x 603(W) x 1230(D) mm
IK RATING	IK 10

With the flexibility of different colours and branding design, the Veefil-PK is easily adapted to suit your corporate image.

ABOUT TRITIUM

Tritium is committed to your electric vehicle charging success. Tritium offers a flexible, responsive and dedicated approach to electric vehicle charging networks around the world. Established in 2001, and backed by government and private investors, Tritium has a growing global presence with installations in over 29 countries and offices in three continents.

Drawing For Reference Only

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TRI105.DTA.002

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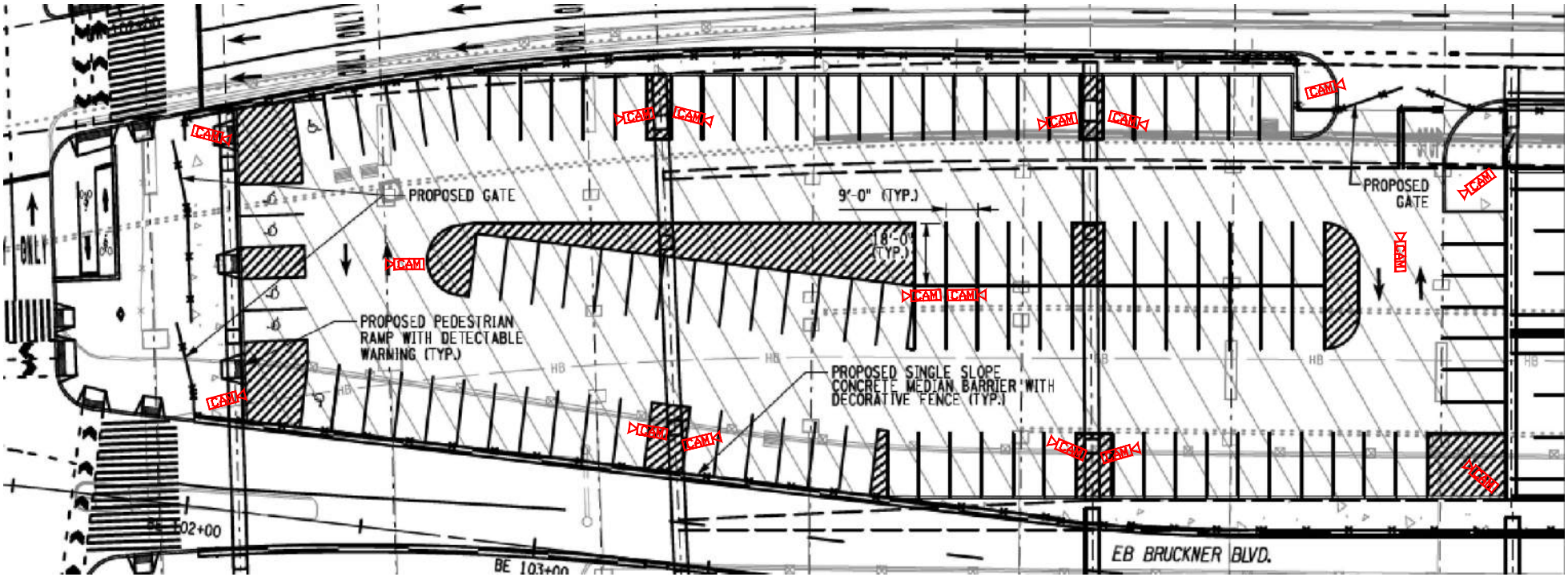
Parking Lot Security References

Security Requirements: IP Cameras with the following minimum specifications:

- 10 MP, 1/3 in progressive scan
- Lens 3.8x(3.0mm to 9.00mm) variable focal length
- 350° Horizontal angle adjustment, 80° tilt
- 1 lux, f2.0 min illumination
- Video motion detection
- Active tampering alarm
- Color to Black/White switching (Day/night) automatic swithcin IR cut filter mechanism
- Compression and frame rate H.264, MJPEG and MPEG-4 32fps each simultaneously



CITY OF NEW YORK — DEPARTMENT OF TRANSPORTATION
BUREAU OF PARKING – FACILITIES ENGINEERING
34-02 QUEENS BLVD — L. I. C. N. Y. 11101

BCD: 02	AREA # N/A	BLOCK # N/A

HUNTS POINT PARKING FIELD

PROPOSED SURVEILLANCE CAMERA LOCATIONS

APPROVED BY		DRAWING
	DRAWN BY DESIGN BY DRAFTING CHECKED BY BOROUGH BRONX SCALE NTS DATE 07-20-2022	